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STUDENT REPORT

THE EFFECTS OF ATTENDANCE AT INITIAL
PROFESSIONAL MILITARY EDUCATION ON
THE PERSONAL VALUES OF UNITED
STATES AIR FORCE OFFICERS

MAJOR JAMES LEE ANTENEN

86-0110

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TITLE THE EFFECTS OF ATTENDANCE AT INITIAL PROFESSIONAL MILITARY
EDUCATION ON THE PERSONAL VALUES OF UNITED STATES AIR FORCE
OFFICERS

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THE EFFECTS OF ATTENDANCE AT INITIAL PROFESSIONAL
MILITARY EDUCATION ON THE PERSONAL VALUES
OF UNITED STATES AIR FORCE OFFICERS

James Lee Antenen

A Dissertation
Submitted to
the Graduate Faculty of
Auburn University
in Partial Fulfillment of the
Requirements for the
Degree of
Doctor of Education

Auburn, Alabama

April 22, 1986

VITA

James L. Antenen, son of Darlene M. Mueller and stepson of Emil Mueller, Jr. [REDACTED], where he attended elementary and secondary schools. Following graduation from Triad High School in 1968, he attended Drake University where he received a Bachelor of Fine Arts degree and a commission in the United States Air Force in 1972.

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He married Christine [REDACTED] in 1974, and they and their two children, Jamie and Christopher, reside in Montgomery, Alabama where he is completing an assignment as a student in the Air Force's intermediate level professional military education program.

DISSERTATION ABSTRACT

THE EFFECTS OF ATTENDANCE AT INITIAL PROFESSIONAL
MILITARY EDUCATION ON THE PERSONAL VALUES
OF UNITED STATES AIR FORCE OFFICERS

James Lee Antenen

Doctor of Education, (????)
(M.S., Central Missouri State University, 1977)
(B.F.A., Drake University, 1972)

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Previous research as well as recent high level Air Force concern over the changing values of civilian society and the effects these changes have on the quality of the United States Air Force officer corps led to this attempt to determine if initial professional military education has any effect on personal values.

The primary purpose of this study was to determine if attendance in initial professional military education changes the personal values of junior Air Force officers to make them more congruent with the personal values of successful Air Force officers. Two widely used instruments were used to obtain the data, the Allport,



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Vernon and Lindzey Study of Values, and the Rokeach Value Survey. Multivariate analyses of variance (MANOVA's) and one-way analyses of variance (ANOVA's) tests were used to analyze the data. The conclusions were that junior Air Force officers' personal values were in fact different from the personal values of successful Air Force officers. It further concluded that attendance in initial professional military education changes the personal values of junior Air Force officers to make them more congruent with the personal values of successful Air Force officers.

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To my mother who started the whole thing by making me go to college in the first place. To my wife for supporting me in this endeavor, now it's her turn to go to school. Finally, to my children, maybe someday they will understand why their daddy spent so much time studying.

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I. INTRODUCTION

One of the most important qualities a leader should possess is ". . . moral courage - to know right from wrong, to possess a firm set of values, and the strength to live by those values . . ." (Lawrence, 1981, p. 41). A Field Circular developed by the United States Army's Center for Army Leadership (1984) implies that values are inseparable from leadership and that it is important that sound and consistent values underlie military leadership.

A recent investigation into the personal values held by successful Air Force officers of 1982 and those who are likely to be successful in 2005 concluded that there are significant differences between the two (Oliver, 1982). Oliver surveyed freshmen at the United States Air Force Academy and officers attending the Air Force's Air War College (considered by Oliver to be successful) and suggested that "Ideally, the goal . . . would be to identify the values profile which most likely assures an incoming Academy student that he/she will be successful in the Air Force" (p. 80).

Flynn (1983) feels very strongly about the importance of acquiring and training military personnel who have the qualities desired by the military. He stated that

Military leadership has an important role in insuring recruiting of individuals with proper ethical backgrounds, instilling values if necessary, and preserving moral and ethical values. Leaders must encourage, support and inspire the qualities desired in subordinates. (p. 92)

Baucom (1983) basically agreed and said that even though professionalism in the military probably increases through a socialization process, the Air Force should work to improve that process. "More effort needs to be expended in formal educational activities so that officers better understand the professional prescriptions and proscriptions of officership" (p. 54).

Oliver (1982) recommended that the Air Force should determine the values required for success and use instruments to identify those values in prospective candidates as entrance criteria and/or make certain that an academic emphasis is placed on shaping values in the direction that makes those values more congruent with successful Air Force officers' values (p. 80). It is the latter of the two, an academic emphasis on shaping values, that this investigation addresses.

For over four decades, at least since John Dewey wrote Experience in Education in 1938, much research has focused attention on personal values, both of

individuals and the groups they make up. Most recently this research has been concerned with identifying and changing values and has demonstrated that questionnaires can be developed and used which can classify and discriminate groups of people along value dimensions. Most of the research has been conducted in the civilian arena. However, there is concern and interest regarding the values of military personnel as well, particularly of those in leadership positions.

Marquez (1986) feels strongly that because military officers are expected to be leaders, when one thinks of a military officer, one usually also thinks of leadership. There is evidence that successful leadership is related to the possession of certain personal values. Fleishman and Peters (1962) believe that

An essential element of any modern definition of leadership is the notion of interpersonal influence . . . the kinds of leadership acts attempted would be a function of the interpersonal values of the leader. (p. 127)

Flynn (1983) says that values that contribute to good leadership can be identified and that long-term values comprise a framework for leadership (p. 85).

Rokeach (1973) emphasizes that there is a great deal of evidence that values influence behavior. They play a central, significant, and powerful role in determining what individuals alone, and as organizations

do and do not do. In other words, personal values are assumed to be primary determinants of behavior. McGregor (1967) said it another way:

The manager's role as a manager is enhanced (and complicated) by the fact that he is also a human being who has developed a set of values. He possesses firm, emotionally based beliefs about what is "good" and "bad" with respect to religious, political, social, economic, and personal aspects of life. He cannot leave these important characteristics of his personality behind when he goes to work. They are part of his identity. (p.51)

A military officer is no different. Although his or her values can be considered to be unique from those of civilian society, these values were established long before entering the military environment, and they serve as a basis for determining a military officer's behavior. Centralized control and "orders from above" often prohibit the military officer from making decisions, particularly in the early years as an officer. However, when external guidance is absent, an officer will base his or her personal decisions on personal values. Learned, Christensen, Andrews, and Guth (1965) said, "Personal values . . . do, and in our judgment quite properly should, influence the final choice of purposes" (p. 20).

The focus of this study was two-fold: first, to determine whether or not Air Force officers with less than seven years of active commissioned service who have not attended initial professional military education in

residence hold personal values congruent with those of successful Air Force officers; and second, if not, whether or not attendance in initial professional military education has an effect on shaping/changing those values.

Statement of the Problem

The primary purpose here was to determine whether or not attendance in initial professional military education tends to change the personal values of junior Air Force officers to be more congruent with the personal values of successful Air Force officers. The results of the Oliver study coupled with a significant amount of recent high level Air Force concern over the changing values of civilian society and the effects these changes have on the quality of the United States Air Force officer corps led to this attempt to determine if initial professional military education changes personal values.

Significance of the Problem

This study comes at a time when the values of civilian society are changing rapidly and are confused and confusing. Stokes (1984) stated:

For multiple reasons, the officer corps of the U.S. Air Force is experiencing changes to a greater extent than should be experienced from normal rotation of people. Furthermore, the rate of changes is more rapid than ever experienced in the U.S. military. (p. 2)

Stokes goes on to say, "The major reasons for the accelerated changes include, but are not limited to the changing values of the American society" (p. 2). He further points out that the curriculum for the Air Force's professional military education institutions has been revised, and other Air Force programs have been initiated in part, due to the changing values systems that have been recognized in younger officers. According to Stokes, this reflects sincere concern for declining officer quality related to changing social values.

At an Air Force symposium on leadership and management, some concern was expressed that the military is becoming more of a voluntary organization.

Services today are possibly too family-oriented meaning dependents of military members are joining the services because their parents were/are military members. People are not joining the services for what they can do for their country. (Austin, 1983, p. 177)

Secrist (1983) believes that defective leadership in today's military is due, in part, to careerism. He says many Air Force officers have an excessive concern for self-enhancement rather than mission effectiveness. He goes on to say that junior officers in their first ten years of service showed trends ". . . away from concern for group welfare in favor of personal well-being" (p. 13). He called this a "me first" attitude, similar to what Lasch (1979) describes as inherent in the

"me generation". Guardo (1981) shows that this particular group of people will ". . . work through established channels but for their own ends and not to advance larger than self social issues" (p. 501). He says these people are self-centered and fundamentally concerned with their own interpersonal relationships. Secrist (1983) also says that personal values are altered by the overemphasis on careerism and that this trend will create unprecedented challenges for America in the near future. He feels that action must be taken to correct leadership deficiencies.

High level concern over the quality of the Air Force officer corps was further illustrated by a request from the Chief of Staff of the Air Force for Air University to undertake an investigation concerning integrity compromises by Air Force officers and non-commissioned officers. The study was performed in 1983 by Hudson, Hull, and Stevenson. They reported that "Nearly 77 percent of the surveyed population reported they felt pressured . . . to compromise their integrity in a job-related situation" (p. 20). One of the recommendations from the study was that integrity should be taught in formal accession training courses and professional military education as well as through more informal means.

Baucom (1983) sees a ". . . recession of professionalism in the present Air Force officer corps" and a ". . . weakness in the unity and sense of purpose" (p. 50). He writes that research shows that more than 50 percent of the officers in the Air Force identify more with their job in the Air Force than they do with the officer corps. He believes there is a ". . . decline in the officer's sense of corporateness" (p. 53). Peppers (1985) also fears that many of today's young officers identify more with their specialty than with the Air Force as an institution. He is concerned that the Air Force is developing officers who are excellent technicians but not military officers and writes "I worry about a military organization that does little to imbue in its members respect and feelings for the trappings of military professionalism" (p. 112). Reed (1984) stated that "We have become a body of parochial individualists looking to further our personal causes rather than as a corps with synergistic energy" (p. 89).

Others point out that the personal values of military officers should be different from those of their counterparts in civilian society, evidenced by the following:

The military has perhaps a greater need for ethics than any other profession because the military task involves the systematic application of social violence. The consequences of unethical behavior . . . are potentially far more devastating than within civilian life. (Gabriel, 1982, p. 57)

Richardson (1983) says that many times the values necessary for defense of the United States conflict with those of society. Even though it is spawned by the civilian community, the military community is different. "The civilian community exists to promote the quality of life. The military community exists to fight and if need be to die in defense of that quality of life" (p. 186).

McDermott (1983) voiced this concern:

In some instances, the all volunteer force has raised the specters of "occupationalism" and "careerism" instead of traditional "service to country" as primary motivators for professionalism. For the officer corps it has certainly meant an often frustrating increase in new "people" problems that do not respond well to traditional military discipline and authoritarian styles of motivation. (p. 57)

McDermott goes on to say that changing societal values have created a number of problems in the military. Different roles for and increased numbers of women in the military, minority problems, critical manpower demands, drug and alcohol abuse problems, increased numbers of single parents and military members married to other military members, have all placed tremendous burdens on the system and threaten traditional values. This then implies that if society's values are changing rapidly, and if the Air Force's new officers possess the same values of society, and if the values of the Air Force as an institution are necessarily different from society's values, the Air Force cannot afford to ignore the changing

complexion of its officer corps. Stansberry (1983) asks ". . . aren't there times when we as military people must preserve values which have eroded in the civilian sector" (p. 116)? All this points to an obvious internal concern for the rapid changes in societal values and the effects these changes have on the quality of the Air Force officer corps. Two questions come to mind: is this concern based on fact; and if so, is anything being done to remedy the deficiencies? These were the focal questions for this investigation.

A program of values education was investigated which has the potential for helping junior Air Force officers inculcate the values necessary for success in the Air Force. First, the exposure to initial professional military education can possibly lead students to change their values. Second, this study could possibly provide, to education, information about the nature of student values. Third, this study has implications for education about the addition, or modification of programs designed to teach or change personal values. Finally, this study has the potential to provide information about the possibility and desirability of measuring student values.

Definition of Terms

The following definitions apply to terms used in this study.

1. Air War College (AWC) - is the highest level of professional military education in the United States Air Force. It is intended to prepare selected officers for key assignments in the upper levels of leadership (Air University, 1984, p. 5). It is sometimes referred to as Senior Service School.

2. Attitude - is the ". . . individual tendency to react either positively or negatively to a given social value" (Gould & Kolb, 1964, p. 40). "Values are broad and encompassing, but attitudes pertain to specific objects" (Travers, 1982, pp. 102-103).

3. Commission - is "A written order giving a person rank and authority as an officer in the armed forces" (Joint Chiefs of Staff, 1979, p. 75).

4. Commissioned officer - refers to an individual who is given a special position of trust as an officer in the armed forces. In this case it refers to an Air Force officer who has been given a commission after completion of certain prerequisites such as an undergraduate degree, completion of a precommissioning education program, and fulfilling physical standards.

5. Ethics - Hoult (1969) agrees with Fairchild's (1970) statement that ethics is the ". . . study of values and of their relations to action patterns and action programs . . . the philosophy of right and wrong conduct" (p. 108) based on personal values.

6. Initial professional military education - refers to the first level of professional military education for Air Force officers. It is officially labeled Squadron Officer School and is designed to provide for the professional development of junior officers (Air University, 1984, p. 31). It is attended by officers with the rank or grade of first lieutenant or captain who have less than seven years of commissioned service on active duty in the Air Force. The school's primary mission is to

. . . provide for professional development of company grade (junior) officers so they can better perform and value their roles in the conduct and support of combat operations and other Air Force missions. (Air University, 1984, p. 31)

A large portion of the curriculum in Squadron Officer School includes subjects related to or about values. Much of it can be considered values education. Military professionalism, officership, values seminars, aspects of the military profession, ethics and obligations, officer obligations and responsibilities, contemporary professional climate, leadership, and motivation are just a few of the subjects taught in this course that are

related to personal values (Squadron Officer School, 1985). Students at Squadron Officer School are continuously evaluated on their performance, to include their assimilation to desired behaviors. Also, these students are totally immersed in teamwork, where the important values become those of the team rather than the individual. This often causes dissonance within an individual, requiring a reevaluation of personal values. Even though there are some subjects in the curriculum that are directly related to values education, the mere experience of attendance at Squadron Officer School can be considered to be an overall attempt at inculcating/ changing/shaping values.

There are five Squadron Officer School classes held each year. Each class consists of slightly less than 800 students. For fiscal year 1985, approximately 3,368 were scheduled for attendance. This represents 54 percent of all eligible Air Force officers. Since these officers are not necessarily selected on a "best qualified" basis, they represent a cross-section of all Air Force officers at their age and rank/grade level (Fisher, 1985).

7. Junior officers - are commonly referred to as company grade officers and defined as officers in the grades of lieutenant through captain with less than seven years of commissioned service.

8. Morals - refers to ". . . rightness and wrongness, good and evil. In conformity with the prevailing moral code" (Fairchild, 1970, p. 170).

9. Moral code - refers to the ". . . accepted set of values for the guidance of conduct in a given society" (Chaplin, 1968, p. 302).

10. Moral conduct - is the actual behavior in choosing right and wrong based on values. (Fairchild, 1970, p. 147).

11. Moral integration - refers to "The degree to which the people of a community . . . generally seek to uphold their social values" (Zadrozny, 1959, p. 213).

12. Moral order - is defined by Gould and Kolb (1964) as ". . . the system of values . . . which govern social behavior . . ." (p. 443).

13. Precommissioning education - refers to the education and training received by officer candidates before they receive their commission. The three primary sources of precommissioning education for the United States Air Force are the Air Force Reserve Officer Training Corps, Air Force Academy, and Officer Training School. Most Air Force officers must complete one of these three programs to receive a commission in the United States Air Force.

14. Professional military education - refers to the "Schools designed to provide Air Force officers with a progressive program of advanced military education to enhance their professional competence" (Air University, 1984, p. 3).

15. Senior service school - is the highest level of the three professional military education schools for Air Force officers. It is officially termed Air War College and is intended to prepare selected officers for key assignments in the upper levels of leadership (Air University, 1984, p. 5).

16. Squadron Officer School (SOS) - is the first level of professional military education for Air Force officers designed to provide for their professional development (Air University, 1984, p. 31).

17. Study of Values - is one of the two instruments (pretest and posttest) selected for use in this investigation.

18. Successful Air Force officers - in this study refers to those officers considered by Oliver (1982) to be successful. They are students who attended Air War College (the third and highest level of Air Force professional military education) in 1982. The Air War College consists of one ten-month class per year comprised of lieutenant colonels and colonels (Air University, 1984,

p. 5). Oliver considers students at the Air War College to be successful officers for the following reasons:

a. Air War College graduates have a one in seventeen chance of being promoted to general compared to a one in one-hundred chance for Air Force officers who do not attend Air War College.

b. Nearly 70 percent of Air Force generals attend senior service school in residence.

c. Selection to attend Air War College is indicative of outstanding performance in the past and potential for future success.

d. Success can be generally equated with promotion to a higher rank (p. 35).

Additionally, officers who attend Air War College are selected by the Central Service School Selection Board as the "best qualified." In "Board Selects 744 for Promotion to Colonel" (October 7, 1985) and "Two-Thousand-Two-Hundred and Twenty-Two Selected for Promotion to Lieutenant Colonel" (January 28, 1985), it was reported that only 61 percent of all eligible officers were promoted to the rank of lieutenant colonel and only 44 percent were promoted to the rank of colonel. Only the top 13 percent of all those officers were selected to attend senior service school. It is therefore inferred that these officers are successful.

19. Value Survey - is one of two instruments (pretest and posttest) selected for use in this investigation.

20. Value system - refers to "A set of values adopted by an individual or society governing the behavior of the individual or members of the society" (Wolman, 1973, p. 400).

21. Values - is defined by Good (1973) as "Any characteristic deemed important because of psychological, social, moral, or aesthetic considerations . . ." (p. 636). Chaplin (1968) refers to it as a ". . . social end or goal which is considered desirable . . ." (p. 521). Rokeach (1973) defines values as ". . . an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (p. 5). Feather (1975) basically agrees with Rokeach. Rogers (1983) feels the term value is used to ". . . refer to the tendency . . . to show preference" (p. 257). Merton (1968) asserts that goals based on values ". . . are the things worth striving for" (p. 187). Simpson (1973) very simply says values are ". . . basic needs" (p. 20). Homans (1950) believes that values are the ". . . unconscious assumptions the members of any

society make . . ." (p. 127). Chickering (1969) offers the following view for consideration:

A personally valid set of beliefs and values that have internal consistency and that provide at least a tentative guide to behavior, affect, and are affected by conceptions of the kind of person one is and would become, and by dominant interests, occupational plans and life-style considerations. . . . Values are the standard by which behavior is evaluated. (p. 123)

Finally, Bem (1970) agrees somewhat with Rokeach and says that "Values are ends, not means, and their desirability is either nonconsciously taken for granted . . . or seen as a direct derivation from one's experience" (p. 16).

Rokeach (1973) divided values into two major categories labeled instrumental and terminal. Instrumental values are an expression of competence and guide the selection of ways to be used to obtain end-states of existence. Terminal values are an expression of individual views of what is moral and constitutes end-states toward which one strives (pp. 8-9). Simply speaking, and for the purposes of this investigation, values can be thought of as standards that guide individual behavior. They are central to a person's attitudes and actions, and they guide virtually all facets of human conduct including interaction with others, how we judge and evaluate ourselves and others, and the way we rationalize. Values guide our chosen occupation and interests and the

positions we take regarding social issues, politics, religion, science, and all other areas of human behavior.

Values are considered by Harriman (1947) to be "Judgments about the worth of an entity or concept" (p. 344). ". . . values are determinants of attitudes as well as behavior" (Rokeach, 1971, p. 453). Specifically, values in this investigation are the six identified in the Study of Values and the 36 in the Value Survey.

22. Values clarification - is an approach to teaching values which uses questioning techniques. The originators of this idea, Rath, Harmin, and Simon (1966), define it as a method where individuals discover their own values.

23. Values education - refers to a structured approach designed specifically for the teaching of values.

24. Values scale - according to Fairchild (1970) consists of "Personal and/or social values ranged in order of relative importance in the attitudes of a given person or group . . ." (p. 332).

II. REVIEW OF LITERATURE

Introduction

Simon, Howe and Kirschenbaum (1972) state that:

Every day every one of us meets life situations which call for thought, opinion-making, decision-making, and action. Some of our experiences are familiar, some novel; some are casual, some of extreme importance. Everything we do, every decision we make and course of action we take, is based on our consciously or unconsciously held beliefs, attitudes and values. (p. 13)

Barry and Wolf (1965) believe that values are learned, and that there are many values that both overlap and often conflict with each other.

Essentially a value is a learned belief so thoroughly internalized that it colors the actions and thoughts of the individual and produces a strong emotional - intellectual response when anything runs counter to it. (p.40)

Barry and Wolf also believe that values vary in degree. In other words, there are "ideal" values, or those that dictate absolutes such as never stealing or cheating, and there are "relaxed" values that are relative such as cheating or stealing just a little. Guth and Tagiuri (1965) believe that "Individuals express their value systems in any number of ways: some very abstract, with

word labels attached to them, others in unselfconscious ways . . ." (p. 125). Guth and Tagiuri support Allport, Vernon and Lindzey's (1970) theory that personal values can be classified as theoretical, economic, aesthetic, social, political, and religious. They also believe that values profoundly influence decisions and that both "Managers and employees often are unaware of the values they possess and also tend to misjudge the values of others" (p. 124).

According to Barry and Wolf (1965) values change in their relative importance. A person may reject certain previously learned values and replace them with new ones that are now more important. They also point out that "Values differ radically from society to society and even among groups and individuals within a single society" (p. 45). Wisner's research in 1984 tends to support this theory. Using the Rokeach Value Survey, Wisner showed that adults go through developmental age periods, and within these age periods, values differ. He showed that there were significant differences in value systems across age periods, between males and females, and between males and females across age periods.

This all points to the premise that personal value systems play an important role in everyone's life, and both individual values and the values of society can, and

do, change over time. The potential for changing values, which relate to and affect the performance of United States Air Force officers, through initial professional military education is the subject of this investigation. The following review of literature centers primarily on the Rokeach Value Survey and the Allport, Vernon and Lindzey Study of Values and the feedback of information on personal values to generate change in certain areas of concern.

There is surprisingly little literature on the subject of values in the military. While most general discussions of military values deal with the influence of values on behavior, none seem to address, in depth, the ability to change values. In 1969 Tyler examined the personal values of U.S. Army officers. He focused on the identification of the values these officers held, and he found that the personal values of these Army officers were similar to those of managers in business. In 1970, England, Agarwal, Trerise, Cottrel, Olsen, and Rydel developed the Personal Values Questionnaire (PVQ) which has been used extensively in surveying both Navy and Air Force officers as well as subjects in the civilian sector. For example, Saluja used it in 1977 to study values and decision-making. England (1973) used the PVQ and found that personal values differ within every group, personal

value systems are generally stable and slow to change, personal values influence behavior, personal values relate to career success, and patterns of personal values can be used for making decisions regarding selection and placement of personnel.

Oliver (1982) cites research that was performed by Dyer and Hilligoss at the U.S. Army Research Institute for the Behavioral and Social Sciences in 1981. They used a modified Rokeach Value Survey and found extensive differences between "successful field grade infantry officers" and "company grade infantry officers and civilians" (p. 30). Again, focus was on identification rather than modification of values.

Bridges (1972) reports using the Value Survey with the U.S. Marine Corps. He found that his subjects' values were significantly different from the typical adult male. Dethloff and Doucet used the Value Survey in an Air Force setting in 1978. They discovered significant differences between the personal values of the officers surveyed and the perceived institutional values. In both of these studies, the emphasis was once more on identification with no effort to address the possibility of changing values. There are, however, numerous studies in the civilian community that deal with the changing of values.

Values Change

Rokeach (1973) suggests that a method he calls self-confrontation can be used for inducing cognitive and behavioral changes in individuals. This method is designed to provide feedback and interpretation about an individual's personal values and the values of others. The premise is that by making individuals aware of certain inconsistencies within their own value system, changes will occur. Recent research supports Rokeach's theory that self-confrontation can change a variety of values, and that these changed values persist over long periods of time. In 1976 Greenstein conducted an experiment to determine if Rokeach's self-confrontation theories were generalizable. The primary conclusion of the experiment disclosed ". . . significant effects on the values and behavior of experimental subjects 13 weeks after the treatment session" (p. 260). This suggests that self-confrontation methods might be an effective and pragmatic means of changing complex personal values. This concept was reevaluated in 1977 when Grube, Rankin, Greenstein, and Kearney reanalyzed data from Rokeach's self-confrontation experiments and found that the self-confrontation process involves the resolution of inconsistencies between behavior and self-concept revealed during treatment.

Grube et al. summed up their findings in the following statement:

. . . awareness of such inconsistencies aroused a state of self-dissatisfaction in these individuals because such information was threatening to their self-esteem or self-conceptions. As one means of reducing this self-dissatisfaction, some of these individuals changed their behaviors to become more consistent with their self-conceptions. (p. 216)

The general idea of self-confrontation closely relates to the theory of "dissonance" addressed by Travers (1982). He says that the theory actually began with Festinger and Carlsmith in 1957. The theory is that an individual cannot tolerate inconsistencies in the opinions and ideas that he or she holds, and the reconciliation of these differences often produces behavioral changes.

Rokeach (1971) says that most social psychologists agree that a state of imbalance or inconsistency is needed in order for cognitive or attitudinal change to occur. Generally speaking there are two methods used to create this imbalance or inconsistency. They are:

. . . to induce a person to engage in behavior that is incompatible with his attitudes and values and
. . . to expose him to information about the attitudes or values of significant others that are incompatible with his own attitudes and values.
(p. 453)

According to Rokeach (1971), the following is a third method that is commonly employed to help create an imbalance or inconsistency:

. . . to expose a person to information designed to make him consciously aware of states of inconsistency that exist chronically within his own value-attitude system below the level of his conscious awareness. (p. 453)

Another experiment performed by Rokeach (1975) looked at the possibility of changing values through computer feedback, even when the values are not preselected for experimental treatment. Rokeach administered his Value Survey, then followed this by exposing the subjects to feedback regarding a comparison of their own value rankings and those of previously obtained rankings for various other groups via a computer. The subjects were then posttested. The study showed long-term, significant value changes. A control group that was not exposed to computer feedback showed no significant changes. Rokeach concludes that

. . . not only face-to-face interaction between subjects and humans, and between subjects and computers, but also between subjects and such mass media as television might also be employed to bring about value changes. (p. 476)

An earlier study by Thistlewaite and Kamenetzky (1955) showed that refutation and elaboration were effective in changing attitudes. The experiment involved a comparison of the effectiveness of refutation verses no refutation, and elaboration verses no elaboration. The experimental group listened to tapes and viewed slides designed to change their attitudes. The control group

listened to tapes and viewed slides that made no mention of the attitudes to be changed. The experimental group was further divided into two groups. The first group's tapes and slides included information to refute the attitudes the subjects already held. The second group's tapes and slides contained an elaboration on the points that were made. The programs in both of the experimental groups were considered to be effective in changing attitudes. Furthermore, these attitudes remained after a three week period.

Cates (1980) investigated the potential for changing values held by college students by having them compare their personal values with the personal values of both happily married and unhappily married college students. He collected information on the values of happily and unhappily married students, then compared the rankings of the values using the Rokeach Value Survey. Cates reported significant differential change among groups in the predicted direction for certain values. He concluded that the procedure he used, if modified, might be effective in changing values.

Glassco performed a study in 1982 to determine whether or not values clarification verses sociology instruction would have different effects on the personal values categories identified by Allport,

Vernon and Lindzey. Glassco collected the data using the Allport, Vernon and Lindzey Study of Values and implied that values clarification techniques can, and do, change values.

An earlier study in 1963 by Vaughan and Mangan used the Study of Values to investigate the effects of group pressure on personal values. Their study showed that the subjects resisted change as a result of group pressure on the values that they regarded as most important. Vaughan and Mangan also showed that the subject's susceptibility to influence increases with increased group pressure.

As one can see, there are numerous methods for inducing values change, some more successful than others. The changing of values which are an integral part of personality has been recognized as a difficult, but not impossible task. There are instruments and techniques that have been used with significant results in the changing of personal values. Rokeach (1971, 1973 & 1975) has performed considerable research regarding values and their related beliefs and attitudes. He has dealt primarily with the changing of values in order to change behavior. Many others have likewise produced significant results concerning values change.

Also, there have been numerous attempts at classifying values and value systems. One of the first important

classifications of personal values was created by Eduard Spranger in 1928. Spranger was a professor of philosophy and pedagogics at the University of Berlin at the time, and his classifications served as the foundation for the Allport, Vernon and Lindzey Study of Values which has been used extensively in empirical studies.

Spranger's Types of Men

Spranger (1928) believes that man's personality is manifested by his values, and he found it useful to identify six types of values classifications. They are: theoretical (interest in discovery of truth), economic (interest in the useful), aesthetic (interest in form and harmony), religious (interest in understanding and unity with the cosmos), social (interest in human relations), and political (interest in power).

Theoretical Man

Theoretical man is dominated by the discovery of truth and the systematic organization of his knowledge. In an effort to attain this goal, he usually takes a "cognitive" approach, looking for identities and differences. This approach disregards beauty or the usefulness of objects and is concerned only with observation and reason. "Pure science . . . recognizes nothing

as beautiful or ugly, useful or useless, holy or impious but only as true or false" (Spranger, 1928, p.111). Spranger goes on to say that the person who falls in the theoretical category has " . . . only one passion, that for objective knowledge; only one kind of longing, to solve a problem, explain a question, or formulate a theory" (p. 111). The theoretical man is also an individualist as opposed to being a social creature. Family ties are not important to him, and he is comfortable only in a setting where his own attitudes are understood. He believes that " . . . education is the only road to progress" (p. 119), and in a political situation, the theoretical man professes that education is the answer to all problems. Because of his "mental achievements," the theoretical man often feels superior to others. He usually does not get involved with religion, except for his own concept of religion since he considers it to be the closest to the truth, and he rejects mysticism. He is considered to be an intellectual whose interests are empirical, critical, and rational. Scientists or philosophers, although not exclusively, often fall into this category.

Economic Man

The economic man is primarily concerned with things that are useful. His interests lie primarily in the practical affairs of the business world; in production, marketing, and consumption; in the use of economic resources; and in the accumulation of wealth. He is totally practical and fits the image of the typical American businessman. Spranger (1928) explains the economic man as ". . . he who in all relations of life prefers utility to all other values. He sees everything as a means for self-preservation, an aid in the natural struggle for existence, and a possibility to render life pleasant" (pp. 132-133). He is the perfect example of egotistical behavior. Aesthetic or religious values are viewed as luxuries which may or may not be valued highly, depending on their economic utility. Even though economic man considers things of little or no use to be a burden, nothing is of complete uselessness. Economic man accepts religion because he sees God as the owner of everything who parcels it out based on utilitarian reasons. The satisfying of needs is the primary motivation of the economic man.

Aesthetic Man

The aesthetic man is chiefly interested in the artistic aspects of life, although he does not necessarily have to be an artist. He enjoys each single activity in life for its own sake. He values form and harmony and often closely aligns himself with the mystical and mythological ideas. Aesthetic man subordinates the economic attitude but views religion as a merging of universal harmony with God and is likely to confuse beauty with purer religious experience. The aesthetic man either considers ". . . truth as equivalent to beauty", or believes ". . . to make a thing charming is a million times more important than to make it true" (Allport, Vernon and Lindzey, 1970, p. 4.). From a social standpoint, the aesthetic man is interested in people, but not necessarily in their welfare. He believes in individualism and self-sufficiency.

Social Man

In the 1970 edition of the Manual for the Study of Values, Allport et al. explain that

The social person prizes other persons as ends, and is therefore himself kind, sympathetic, and unselfish. He is likely to find the theoretical, economic and aesthetic attitudes cold and inhuman. (p. 5)

Social man's highest value is love for mankind. "The social quality in its highest development is called love. And this may come from the communication that all life is related and perhaps even essentially one" (Spranger, 1928, p. 173). The attitude of social man is that he often sees himself reflected in others and believes that others have value that he gives personal worth. These values are then reinforced or enhanced in himself.

Political Man

The political man's interests are centered in power. Allport et al. (1970) believe that political man's activities fall within whatever his vocation might happen to be and are not necessarily limited to politics. Spranger (1928) says

. . . all phenomena of power relations have a certain aspect which one might call in a broad sense political. We shall therefore occasionally call the man of power the political type even though the attitude exists in circumstances which one could not call political in the broad sense of the term. (p. 189)

This attitude is basically concerned with people who want power to gain certain ends which they believe to be valuable. "Power is thus the capacity and (usually) the will, to posit one's own value direction in the other." (p. 189). Political man sees others as a means to an end and believes that wealth is involved in power. As a

result, a certain amount of economic motivation may exist, however, the acquisition of this wealth may or may not be according to the theories of the economic attitude.

Allport et al. (1970) believe that

Leaders in any field generally have high power value. Since competition and struggle play a large part in all life, many philosophers have seen power as the most universal and most fundamental of motives.
(p. 5)

Spranger (1928) says

The only man who possesses the qualities to lead others and subject them to the influence of his own value direction is he who through self control subjects himself to the demands of the highest value in his heart. (p. 203)

For some, this value is the highest which drives them to obtain personal power, influence, and recognition, and even material possessions take second place. Spranger also said that political man's goal is ". . . to assert himself and have his cause victorious" (p. 200).

Religious Man

According to Spranger (1928) the dominant value in the religious man is unity. Generally speaking, he has a mystical orientation and tries to relate himself to the universe in a meaningful way. This attitude is concerned with relations between any and all value experiences and the person's whole life. Everything is placed within the context of religion. "The meaning of the world, that is,

of the whole, can therefore only be experienced by the religious attitude" (p. 211). Spranger divides religious man into three categories: immanent mystics, transcendental mystics, and dualistic. Immanent mystics see something divine in every event. Transcendental mystics withdraw themselves from life because they see nothing in the world worthy of their attention. These people find unity through self-denial and meditation. The dualistic person is found somewhere between the immanent and the transcendental mystics. This is the category where religious man is ordinarily found according to Spranger. He is neither of the two extremes just described.

Spranger's Types of Men are ideal types. In other words, man does not belong exclusively to one of these categories but might have qualities found in any number of them. Spranger's value classifications/categories served as a theoretical foundation for the Allport, Vernon and Lindzey Study of Values designed to quantitatively measure the strength of each of the six value categories described above.

Allport, Vernon and Lindzey

With Spranger's Types of Men as the basis, Allport, Vernon and Lindzey (1970) developed the Study of Values

". . . to measure the relative prominence of six basic interests or motives in personality: the theoretical, economic, aesthetic, social, political, and religious" (p. 3). It was first published in 1931, revised and published in its second edition in 1951, and revised again in 1960. In 1968 a machine scorable booklet was also provided with the questionnaire. Finally, in 1970, the Study of Values was revised again, this time with a new scoring sheet and more information regarding the norming processes.

Approximately 1400 subjects were used when Vernon and Allport (1931) initially designed the Study of Values. When it was finalized, they surveyed 800 subjects which they used as their "standardization group" (p. 236). This then was the basis for the norms for the first edition. This first edition of the questionnaire had two parts with 120 questions referencing each of the six values classifications. The norms were provided along with the questionnaire and respondents could score their own responses and determine their own profile.

The 1951 revision of the form ". . . increased the diagnostic power of the items; it simplified wording and modernized certain items; it provided fresh norms; it increased the reliability of the test as a whole" (Allport et al., 1970, p. 9). The major improvement was in redefining the "social" value. The old definition

had low reliability because of what Allport et al. (1970) considered to be Spranger's "over-broad" conception of the "social" value. As previously mentioned, to Spranger, the "social" value stood for love in any form. In the 1951 edition of the survey the Allport group deliberately limited the items related to the "social" value to mean "altruistic love" or "philanthropy." Overall, research that was done after the 1951 edition was published showed that it was in fact more reliable.

There were no changes in the test items from the 1951 (second) edition to the present (third) edition. The only changes were in the instruction manual and the score sheet. The Study of Values was standardized on college students from liberal arts colleges. Allport et al. (1970) believe that they have shown the validity of their questionnaire by examining the characteristics that are already known of various groups. For example, they believe that women will be more religious, social, and aesthetic than men. They also believe that engineers will be more theoretical and economic. They have provided normative data that illustrates their assertions.

Further review of the available literature shows the Study of Values is probably one of the most extensively used instruments for evaluating personal values. Evidence of the validity of the Study of Values is illustrated in

studies which demonstrate the following: values clarification methods can, and do, change values (Glassco, 1982); degree of resistance to conforming to group pressure (Vaughan & Mangan, 1963); and validity of the Study of Values through an experiment specifically designed for that purpose (Simon, 1970). The questionnaire's validity has also been shown in performance on word associated tasks (Dunn, Bliss & Sirpola, 1958) and concept span (Mayzner & Tresselt, 1955), and Guth and Tagiuri (1965) used it to obtain information concerning the value profiles of top-level business executives. They found that the average executive profile was ". . . a combination of economic, theoretical, and political values. The economic and political orientations are clearly in line with our stereotypes of businessmen" (p. 126).

The Study of Values questionnaire's design and the results it yields show that for each of the six value classifications, means and standard deviations are appropriate descriptions of the group of responses.

Massey's Value System Programming

Massey (1979) believes that any difficulty with interpersonal communications or relationships is directly affected by personal value system differences. He feels that personal values are programmed as a result of the

environment, and that a person's basic value system is formed at about age ten and firmed at about age twenty. Although there are some cases of deviations from values that are acquired early in life, adults' values are primarily a result of what they learned from the people who raised them and their own particular individuality and environment. Much of the process takes place early in life, but we often have trouble identifying our values until we confront situations that force us to recognize them. Massey also believes that in order for people to change their values after about age twenty, they must undergo what he termed a "significant emotional event."

Dramatic change in the gut-level value system may occur at any time during our life. If something significantly affects us and forces a reassessment of our gut-level values, then we may change. Such a change may occur in a slow buildup (continued exposure to media messages, behavior pattern changes, job variations, etc.) or through dramatic events (involvement in a war, a real energy crisis, divorce, being fired, etc.). The closer such events occur to our early programming periods, the more likely significant change will occur. The less dramatic the event the longer we hold our programmed values, and any change in values will occur more slowly, if at all. (p. 18)

The basic element in Massey's significant emotional event theory is a challenge or disruption of a person's behavior patterns or beliefs. Massey cautions that it is important to understand the difference between events that simply change behavior and those which actually change values.

In the past, according to Massey, people were rarely exposed to significant emotional events. Consequently, they rarely changed their basic values. However, because society is presently changing more rapidly than ever before, people are being exposed to more frequent significant emotional events. Because acceptance of the possibility that a completely different view from the one a person holds now might be threatening, people tend to try to maintain their own beliefs and values. To analyze personal values, Massey looks at the major factors that influenced the individual's development. Some of the factors that Massey points out as important influences are family, religion, schools and teachers, geography, economics, and the media. He believes that because people of different ages value programmed at different times, under different influences, and in different environments, different value systems emerged resulting in sources of conflict between people.

Massey identifies four specific age categories of people who are different from each other merely because their values were programmed at different times and in different places. These categories are: traditionalists, in-betweeners, rejectionists, and synthesizers. Traditionalists are made up of people who were born in the 1930's and earlier. They generally hold a traditional

value system. Many of them fought in two major wars and lived through the depression. They believe in teamwork, group cooperation, and conformity. They also believe in unquestioned acceptance of authority and maintaining the status quo, in social order and stability, and they feel that change is a potential threat to economic security. They value material things and believe that money motivates people. In-betweeners are those who were born in the late 1930's and 1940's. They generally make up a group that holds values somewhere between traditionalists and rejectionists. Rejectionists were value programmed to question and challenge authority, and they do not tolerate inadequate decisions. These are people who were born in the late 1940's and later. They accept conformity to group goals, but only if the goals are compatible with their own. Rejectionists accept change as normal. In fact, they would change everything just to keep from getting bored. They take material things for granted and are more interested in emotional rather than material security. They are very informal, "laid-back" and casual. They place a high value on their individuality and believe that work is only a very small portion of their lives. Massey's synthesizers are those presently in their early 20's and below - today's youth - the ones being value programmed right now. Massey says

There are many other value differences that exist between the traditionalists and the challengers . . . all those other people . . . have value systems that they cherish and protect just as you do your own. (p. 229)

He also says that a

. . . significant emotional event . . . occurs when your values and behavior are challenged, especially . . . when you're confronted from multiple sources. (p. 237)

Massey feels that if we understand value systems, we can use significant emotional events as the basis for change.

Rokeach's Values

In 1973 Rokeach wrote

. . . the concept of values, more than any other, is the core concept across all the social sciences. It is the main dependent variable in the study of culture, society, and personality, and the main independent variable in the study of social attitudes and behavior. It is difficult for me to conceive of any problem social scientists might be interested in that would not deeply implicate human values. (p. ix)

As a result of his convictions, Rokeach has performed extensive research into the identification of values and the possibility of their modification. Rokeach has emphasized the importance of the values concept in the study of human behavior. When he refers to a person having a particular value, he is talking about that person's beliefs regarding modes of conduct or end-states of existence (p. 7). Modes of conduct are

instrumental values, and end-states of existence are terminal values. Rokeach says that the distinction between the two has been recognized and investigated by numerous experts, most of which have been concerned with end-states or terminal values. As previously pointed out, there are other classifications or categorizations of values that have been identified and studied. However, Rokeach's terminal and instrumental values set a fairly straightforward framework for the identification and measurement of values.

Rokeach's (1973) terminal values are an expression of individual views of what is right, and they constitute end-states toward which one strives. He further divides terminal values into two categories: personal and social. He says they can either be ". . . self-centered or society-centered, intrapersonal or interpersonal" (p. 8).

Rokeach (1973) also divides instrumental values into two categories: moral values and competence values. Moral values generally are modes of behavior as opposed to end-states and usually refer to the interpersonal types of values ". . . which, when violated, arouse pangs of conscience or feelings of guilt for wrongdoing" (p. 8). Others, which Rokeach refers to as competence or self-actualization values are more personal as opposed to

interpersonal and are not necessarily moral in nature. "Their violation leads to feelings of shame about personal inadequacy rather than to feelings of guilt about wrongdoing" (p. 8).

Nature of Value Systems

Rokeach (1973) believes that once a value is learned it is ". . . integrated somehow into an organized system of values wherein each value is ordered in priority with respect to other values" (p. 11). This concept allows us to see any change in the rearrangement of the values with reference to their priorities as well as identify the fact that the overall value system is generally stable and unchanging over periods of time. Rokeach says that value systems are

. . . stable enough to reflect . . . sameness and continuity of a unique personality socialized within a given culture and society, yet unstable enough to permit rearrangement of value priorities as a result of changes in culture, society, and personal experience. (p. 11)

Measurement of Values

Rokeach (1982) developed a measurement instrument called the Value Survey. Early versions of this instrument consisted of 12 terminal values and 12 instrumental values. The present survey consists of 18 alphabetically listed terminal and 18 instrumental values.

The terminal values are a comfortable life, an exciting life, a sense of accomplishment, a world at peace, a world of beauty, equality, family security, freedom, health, inner harmony, mature love, national security, pleasure, salvation, self-respect, social recognition, true friendship, and wisdom. The instrumental values are ambitious, broadminded, capable, clean, courageous, forgiving, helpful, honest, imaginative, independent, intellectual, logical, loving, loyal, obedient, polite, responsible, and self-controlled.

Each value is accompanied by a brief definition. Respondents are instructed to arrange the listed values ". . . in order of their importance to YOU, as guiding principles in YOUR life" (Rokeach, 1982, p. 2). Rokeach (1973) states that this method means that it is not necessarily the values' presence or absence, ". . . but their relative ordering" (p. 27).

Before deciding on the ranking approach, Rokeach considered two other possible methods to measure values. The first one was ". . . drawing inferences about a person's values from his behavior in structured situations" (p. 26). Rokeach felt that this method was too time-consuming and costly, and it could not be used with large numbers of people. Additionally, this method would be difficult to interpret and quantify and could possibly

be biased by the observer's own values. The second method was simply to ". . . ask a person to tell us in his own words about his values . . ." (p. 26). Rokeach also rejected this method because respondents might not be willing to discuss their values, or they might be selective in the values they choose to reveal to the investigator.

Rokeach's Value Survey presents two alphabetized lists of preselected terminal and instrumental values. All the respondent has to do is rank order the values in order of importance based on his or her beliefs.

Rokeach (1973) condensed his list of values from a more comprehensive list which he originally developed from a variety of sources. He reviewed available literature, evaluated his own values, surveyed students, and interviewed adults. He compiled several hundred values and reduced the terminal values list based on

. . . those values judged to be more or less synonymous with one another . . . those which were empirically known to be more or less synonymous . . . those which overlapped . . . were too specific . . . or . . . did not represent end-states of existence.
(p. 29)

For the instrumental values, Rokeach used two lists, one compiled by Allport and Odbert in 1936 and one by Anderson in 1968. Criteria used to reduce these lists included

. . . retaining only one from a group of synonyms or near synonyms . . . retaining those judged to be maximally correlated with one another; retaining

those judged to represent the most important values of American society; by retaining those deemed to be maximally discriminating across social status . . . by retaining those judged to be meaningful values in all cultures; and by retaining those one could readily admit to having without appearing to be immodest, vain, or boastful . . . (pp. 29-30)

Rokeach admits that his selection procedure was mostly intuitive. Others attempting to perform the same task may or may not have come up with the same list.

Rokeach (1973) was initially concerned that since the values on the survey are listed in alphabetical order, it was possible that those higher on the list would also be listed higher by the respondent, thus creating an "order effect" (p. 39). He investigated that possibility and determined that the subjects are not influenced by alphabetical order. He also cautions that the survey is ipsative. It is

. . . one that generates nonindependent data within individuals . . . this fails to satisfy the assumption of complete independence when statistical comparisons are made across individuals. (p. 42)

However, he feels that since 18 values is a relatively small number, the violation of the independence assumption is likewise small.

. . . once a person has ranked 17 values, the ranking of the eighteenth value is completely determined. This amount of ipsativity can be tolerated, but it should be taken into account when interpreting statistical findings. (p. 43)

Rokeach defends the Value Survey as an all-purpose instrument for measuring human values.

Practical Uses

The Value Survey has been used widely by researchers to measure personal values. It has been determined by Rokeach (1973) that it can

. . . discriminate among so many different groups; that different values are central in different areas of social life; that values, attitudes, and behavior can undergo lasting change when people become aware of . . . contradictions within themselves. (p. 330)

Rous and Lee (1978) used the Value Survey to differentiate ideological positions. Munson and Posner (1980) used it to differentiate managers and nonmanagers and employees with higher levels of self-perceived success from those with lower levels of self-perceived success. Munson (1980) took the Value Survey a step further and modified it to use an interval scaling procedure rather than the rank order method. He discovered that the intervally scaled version demonstrates validity in its ability to discriminate among different groups of people. Rokeach's Value Survey was also used by Shatland and Berger (1970) as a predictor of honesty in a corporate setting. Miller (1983) found the Rokeach Value Survey valid for determining relationships between college business school students, faculty, and business leader values. The Value Survey was used by Katz and Beech in 1980 to find likenesses and differences in values between counselors

who were trained in 1968 and those trained in 1978. They analyzed differences in the personal values of counselors and the similarities and dissimilarities of future counselors. These values were then compared with the values of the general population of the same time frame. They found that counselors' values do change, but not as fast as the social environment in which they exist. Rokeach and Regan (1980) used the Value Survey and Rokeach's method of self-confrontation in a value therapy setting. Prescott and Hopkins (1984) used the instrument to determine the value and attitude structure of special educators.

Finally, Rokeach (1973) himself has used the Value Survey instrument rather extensively. He feels it has produced meaningful and comparative data for respondents between ages 11 and 90, provided valid data on national samples of Americans as well as other countries, and has provided test-retest reliabilities for both terminal and instrumental values. He feels the survey is objective because the respondent is asked to do nothing more than rank order values, and he feels it is projective because the respondent has his or her own internal value system to guide the responses.

According to Rokeach (1973) his research has shown that males and females generally rank a "world at peace,"

"family security," and "freedom" as the most important. Males usually rank a "comfortable life" higher and "salvation" lower than females. People who are in the lower income brackets and less educated rank "clean" and "a comfortable life" higher, and "logical" and "a sense of accomplishment" lower than those in the upper income brackets and with more education. Also, whites ranked "equality" lower than blacks. Rokeach also used the Value Survey to sample people in other countries and compare them to U.S. students. He found that U.S. students ranked "materialistic" achievements higher and "hedonistic" values and "equality" lower than Australians, Canadians, and Israelis. In other studies, Rokeach found that policemen ranked "freedom" and "equality" lower and "pleasure," "obedience," and "self-control" higher than other adults. Academicians ranked "social," "intellectual," and "achievement" values higher than other educated Americans and ranked "religion" lower. Rokeach illustrates value profiles associated with racist and social rights attitudes, political preferences, protest and activism behavior, homosexual lifestyles, religious involvement, and many more.

These are only a few of the investigations that have yielded valid results using Rokeach's Value Survey. Many investigations have been done. The ones reported

here are the most representative. All of them seem to render the same valid and reliable results.

Changing Values

Rokeach (1973) believes that the key to changing values is self-dissatisfaction. This occurs when an individual is made aware of contradictions between his or her self-conceptions and values, attitudes or behavior.

In his 1979 book, Rokeach observed the following:

Value change and related changes in attitude and behavior can come about either as a result of (1) changes in self-conceptions or definitions of the self or because of (2) increases in self-awareness - about hypocrisies, incongruities, inconsistencies, or contradictions between self-conceptions or self-ideals . . . and one's values, related attitudes, and behaviors . . . (p. 6)

Because of this, Rokeach believes that ". . . value change following self-awareness becomes synonymous with value reeducation . . . thus more relevant to the concerns of education" (pp. 6-7). What this means is that a subject ranks his or her own values, receives information and an interpretation of the values of another important group of people and compares his or her rankings with theirs. This usually results in a reorganization of values more congruent with preferred self-conceptions along with a change in behavior. Rokeach (1973) states that

Experimental groups, given feedback concerning their own and others' values and attitudes, are more likely to become aware of contradictions within themselves

and should, therefore, undergo systematic long-term changes in values and attitudes, in a direction designed to reduce or eliminate such contradictions. Control groups, receiving no such feedback, should have no reason to undergo cognitive change. (p. 248)

Oliver's Challenge

Oliver performed an investigation in 1982 to determine if there was a significant difference between personal values of successful Air Force officers and personal values of Air Force Academy freshmen. To do this he administered the Allport et al. Study of Values and the Rokeach Value Survey to Air Force colonels and lieutenant colonels attending the Air War College in 1982 and to approximately 10 percent of the freshmen enrolled in the Air Force Academy in the same year. Oliver found that the Air War College group valued the economic orientation higher than the Academy group on the Study of Values. Using the Value Survey, he also discovered that the Air War College group valued "national security," "a sense of accomplishment," and "family security" higher than the Academy group. Finally, the Air Force Academy group ranked "true friendship," "happiness," and "pleasure" higher than the Air War College group ranked them. Oliver feels that these are not necessarily a result of the age differences between the two groups. Based on his findings, Oliver suggests that the ". . . Study of Values

results are likely to stay constant from a person's early twenties while the 'terminal' values of the Value Survey may change as a person ages" (p. 77).

Table 1 shows the Study of Values data for Oliver's two groups. Oliver reports that at the .01 level of significance, the Air War College group placed more emphasis on the economic attitude than the Academy freshmen did. The results of the other five values were not significantly different between the two groups.

TABLE 1

<u>Study of Values Data From the Oliver Study for Successfull Officers Versus Academy Students</u>				
<u>Value</u>	<u>AWC</u> (N=50)		<u>Academy</u> (N=187)	
	<u>Mean</u>	<u>Std Dev</u>	<u>Mean</u>	<u>Std Dev</u>
Theoretical	44.980	7.212	43.647	7.257
Economic	46.500	6.985	42.775	7.115
Aesthetic	35.380	7.785	37.198	8.069
Social	32.360	7.842	34.727	7.501
Political	44.140	6.833	44.150	7.025
Religious	36.440	11.860	37.449	10.607

Table 2 shows the Value Survey data from Oliver's two groups. Air War College students ranked a "sense of accomplishment," "family security," and "national

security" higher. Air Force Academy freshmen ranked "happiness," "pleasure" and "true friendship" higher. Air War College students ranked "a comfortable life" lower than Academy freshmen ranked it.

TABLE 2

Value Survey Rankings From the Oliver Study for Successful Officers Versus Academy Students				
<u>Value</u>	<u>AWC</u> (N=52)		<u>Academy</u> (N=154)	
	<u>Median</u>	<u>(Rank)</u>	<u>Median</u>	<u>(Rank)</u>
A comfortable life	12.667	(15)	11.500	(12,13)
An exciting life	11.214	(13)	10.833	(11)
A sense of accomplishment	6.700	(6)	9.722	(10)
A world at peace	11.000	(11)	11.500	(12,13)
A world of beauty	16.250	(18)	15.660	(18)
Equality	14.000	(16)	12.375	(14)
Family security	4.071	(2)	7.222	(5)
Freedom	3.900	(1)	5.136	(1)
Happiness	9.300	(9)	5.864	(2)
Inner harmony	8.611	(8)	8.214	(9)
Mature love	9.750	(10)	7.682	(6)
National security	6.000	(4)	13.227	(16)
Pleasure	15.357	(17)	12.571	(15)
Salvation	6.500	(5)	7.700	(7,8)
Self-respect	5.300	(3)	6.227	(3)
Social recognition	12.000	(14)	13.400	(17)
True friendship	11.050	(12)	6.318	(4)
Wisdom	8.250	(7)	7.700	(7,8)

Oliver suggests that the differences shown in Table 3 are not explainable based solely on age differences and are the "bottom line" of the findings of his research.

TABLE 3

<u>Oliver's Bottom Line Findings</u>			
<u>Study of Values</u>			
<u>Value</u>	<u>AWC</u>	<u>Academy</u>	<u>Significance</u>
Economic attitude	Higher	Lower	0.01
<u>Value Survey</u>			
<u>Value</u>	<u>AWC(Rank)</u>	<u>Academy(Rank)</u>	<u>Significance</u>
National security	Higher (4th)	Lower (16th)	0.000
A sense of accomplishment	Higher (6th)	Lower (10th)	0.001
Happiness	Lower (9th)	Higher (2nd)	0.001
True Friendship	Lower (12th)	Higher (4th)	0.000

Implications of Oliver's Research

Oliver (1982) argues that

. . . since 'success' in the Air Force (or in any other career) is a direct result of a person's behavior which is related to personal values, the values of 'successful Air Force officers' should be emulated/imitated/achieved by those Academy freshmen who want to be successful. (p. 79)

He believes that freshmen should be assisted in accomplishing "success" by placing an increased emphasis on the "economic" attitude, "national security," and on a

"sense of accomplishment." "Each freshman should be made aware of his own personal values . . . and each freshman should be made aware of the values of 'successful Air Force officers' " (p. 79). Rokeach (1973) supports this position by saying "Merely telling a person about his own values and giving him a free hand to compare them with those of significant others may be a sufficient condition for initiating value change" (p. 332).

Oliver (1982) says that the goal of any further research in this area ". . . would be to identify the values profile which most likely assures an incoming Academy student that he/she will be successful in the Air Force" (p. 80).

Other Considerations

There are two minor points regarding the use of the data collected from the Value Survey in the 1982 Oliver study that must be addressed. First, Oliver used only the terminal values for comparison, and he excluded the instrumental values. Therefore, the instrumental values from the Value Survey were not used in this investigation. Second, Rokeach made two minor changes in his Value Survey since Oliver used it in his study. Form D of the survey is no longer available. Form G is the most current edition. The first change was that the

term "happiness" in the terminal values list was replaced with "health". In an interview in January 1986, Rokeach stated that since this represents only one out of eighteen values on the entire list that he is confident that it is ". . . really a small matter." In other words, Rokeach believes that comparing Form D with Form G is still valid. Although Rokeach feels that the change will not significantly affect the results, the dependent variables "Happiness" and "Health" were not used in this study to make any comparisons or draw any conclusions between the pretest group and the Air War College group and the posttest group and the Air War College group. The second change replaced "cheerful" with "loyal" on the instrumental values list. Since Oliver did not use this list, it likewise was not used here. Therefore, the second change did not have an effect on this study.

Summary

The theme of the review of the literature is that personal values of individuals do exist, are different, and can be changed. A number of different labels have been used to categorize values, and questionnaires have been developed and used successfully to determine the personal values of both individuals and groups. Also,

statistical analyses of the data accumulated by these questionnaires have enabled them to be described and compared.

Most of the research in the area of personal values has been in the civilian community, with only minor attention paid to the military. No research was found regarding the changing of values that solely addressed the military. It was the intent of this study to explain in detail an effort to change values of military personnel through professional military education.

III. METHODOLOGY

Research Question and Hypotheses

The basic research question for this study was does attendance at Squadron Officer School change the personal values of junior Air Force officers, and if so, will the change be in the direction of making those values more congruent with successful Air Force officers (Air War College students from the 1982 class)?

This study examined three research hypotheses. They were that

1. successful Air Force officers and junior Air Force officers do not hold the same personal values,
2. junior Air Force officers will change their personal values after they have been exposed to initial professional military education in residence, and
3. the change will make the personal values of junior officers more congruent with those of successful officers.

Stated in the null form, the hypotheses were as follows:

1. There is no significant difference between the values survey scores of successful Air Force officers and junior Air Force officers who have not yet been exposed to initial professional military education (Squadron Officer School).

2. There is no significant difference between the pretest (before exposure to initial professional military education) and posttest (after exposure to initial professional military education) survey scores of junior Air Force officers on a values survey.

3. There is no significant difference between the survey scores of successful Air Force officers and junior Air Force officers on a values survey after the junior Air Force officers have been exposed to initial professional military education (posttest).

Instruments

The values related data in this investigation was collected using two previously validated instruments, the Study of Values by Allport, Vernon and Lindzey (1970) and the Value Survey Form G (1982) by Rokeach.

Study of Values

Allport, Vernon and Lindzey's (1970) Study of Values was designed to measure six value types originally

identified by Spranger in 1928. It first appeared in 1931 and was revised in 1951 in its second edition which was more discriminating, more reliable, and it redefined the social value. The third edition, first printed in 1960 and updated again in 1970, was used in this research. It is basically the same as the second edition with two exceptions. First, it includes information and data concerning the norming processes, and second, it has a new scoring sheet. The Study of Values is in two parts. Part I has has 30 items with two choices for each item. Part II has 15 items with four choices for each item. Each yields six different scores categorized as follows: theoretical, economic, aesthetic, social, political, and religious. More information regarding the Allport instrument is in Appendix A.

The Study of Values was designed primarily to be used with college students or with adults who have had some college or equivalent education. The instrument was normed on 8,369 college students from various colleges and universities throughout the United States. These norms are presented in Allport, Vernon and Lindzey's (1970) Manual for the Study of Values. Norms are given for the total sampled, for males and females, and for specific colleges as well as narrow occupational groups. Using the split-half method, Allport, Vernon and Lindzey reported a

mean reliability of .90 (1970, p. 9). The Spearman-Brown product moment correlations are shown in Table 4.

TABLE 4

<u>Split-half Reliabilities for the Study of Values</u>	
<u>Value Category</u>	<u>Reliability</u> (N=100)
Theoretical	.84
Economic	.93
Aesthetic	.89
Social	.90
Political	.87
Religious	.95

Allport et al. (1970) state in their manual that successive revisions of the test have shown positive association (p. 9) at the .01 level of significance. To measure stability, two populations were retested, one after a one month period and another after a two month period. "The mean repeat reliability coefficient . . . was .89 for the one month study and .88 for the two month interval" (Allport, et al., 1970, p. 10).

In the Manual for the Study of Values, Allport, Vernon and Lindzey (1970) state that

. . . the most direct and convincing evidence for the validity of the scale comes from examining the scores of groups where characteristics are known. Thus, common experience leads us to expect that women will on the average be more religious, social, and

aesthetic than men. We likewise expect students of engineering by and large to stand relatively high in theoretical and economic values. (p. 13)

Allport et al. (1970) present tables in their manual that substantiate their views. These tables show that in almost all of the cases, high and low scores do correspond with prior expectations. Numerous experts believe that personal values can be measured and have used the Study of Values as their instrument. Many of these efforts are discussed in the review of the literature section.

Value Survey

Rokeach's (1973) Value Survey consists of a ranking scale of 18 terminal values (end-states of existence) and 18 instrumental values (modes of conduct). Even though this instrument appears to be somewhat simplistic, it has been used extensively in research and has yielded valid results time and time again. The respondent using the Rokeach instrument is simply asked to rank order each of the 18 terminal and 18 instrumental values. Terminal values include a comfortable life, an exciting life, a sense of accomplishment, a world at peace, a world of beauty, equality, family security, freedom, health, inner harmony, mature love, national security, pleasure, salvation, self-respect, social recognition, true friend-

ship, and wisdom. Instrumental values include ambitious, broadminded, capable, clean, courageous, forgiving, helpful, honest, imaginative, independent, intellectual, logical, loving, loyal, obedient, polite, responsible, and self-controlled. Rokeach says that these are core values, and he contends that individuals differ in the rank-ordered structure of core values rather than which values are held. It should be noted here that in 1982, the terminal value "happiness" was changed to the current term "health," and the instrumental value "cheerful" was replaced by "loyalty." A review of the literature illustrates that when values are arranged in order of importance to an individual, hierarchical differentiations occur for categories such as men and women, hawks and doves, good students and poor students, Jews and Catholics, democrats and republicans, and numerous others. More information about the Value Survey can be found in Appendix B.

Reliabilities for each of the values in the Value Survey have been obtained and considered separately. Also, test-retest reliability has been determined for the total value system. A supplement to the Value Survey questionnaire provides information regarding test-retest reliability (Rokeach, 1982). Table 5 shows the median reliabilities for the overall survey from that supplement.

TABLE 5

Test-Retest Reliabilities for the Value Survey				
N	Sample	Time between test-retest	Terminal Values	Instrumental Values
26	grade 7	3 weeks	.62	.53
26	grade 9	3 weeks	.63	.61
26	grade 11	3 weeks	.74	.71
117	college	3 weeks	.78	.72
36	college	4.5 weeks	.80	.70
100	college	7 weeks	.78	.71
108	college	3-5 months	.73	--
103	college	15-17 months	.65	--
32	adults	12 weeks	.74	--
204	college	14-16 months	.69	.61

Also, Rokeach (1973) reports that reliabilities for terminal values range from .51 for "a sense of accomplishment" to .88 for "salvation," and for instrumental values, reliabilities range from .45 for "responsible" to .70 for "ambitious" (p. 28).

Rokeach (1973) further states the Value Survey is ". . . sensitive to differences between cultures, institutions, group membership, and personal experience" (p. 52). He describes the terminal and instrumental rankings for representative samples varying in sex, income, education, race, age, and various other categories. Findings illustrate that various different numbers and combinations of the 36 values are able to differentiate significantly among numerous variables.

Study Group

This study was conducted at Air University, Maxwell Air Force Base, Alabama in 1986. The population was made up of two groups: a random sample of 300 junior Air Force officers from a total class of 798 attending initial professional military education in Squadron Officer School, and officers who attended senior service school professional military education ("successful" Air Force officers at Air War College) in 1982.

Treatment

The treatment was exposure to an eight and one-half week course of instruction in residence at Squadron Officer School located at Maxwell Air Force Base, Alabama. It is the initial stage of officer professional military education and consists of intensive training in military professionalism, officership, values, unique aspects of the military profession, ethics and obligations, officer obligations and responsibilities, contemporary professional climate, leadership, and motivation. Students in Squadron Officer School are continually evaluated on their performance, and they are totally immersed in teamwork, where the important values become those of the group or team rather than the individual.

This often causes internal conflict or dissonance in the individual which, according to Travers (1982), forces him or her to reevaluate his or her personal values. Even though there is no one specific effort within the curriculum of Squadron Officer School to identify, much less change values, it was believed that the overall experience of attendance in this program alone would have an effect. Any educational process can generally be thought of as an effort to change the student. According to Fairchild (1944) education is

The acculturation of the newer/or younger members of society by the older. The institution-process whereby the accumulated . . . standards . . . are transferred to, or imposed upon, the rising generation. (p. 103)

In this study, then, it was the overall educational process rather than one specific change effort that was evaluated.

Instrument Administration

Randomly selected Squadron Officer School students were pretested on their first day of class. The same participants from the pretest were then posttested in their final week of the course, eight weeks later. Of the 300 questionnaires sent, 249 (83%) were returned. Three of the questionnaires were not usable, leaving a total sample size of 246. Four of the respondents from

the pretest failed to enclose their names for identification purposes for the posttest. This left a total group of 242 junior officer subjects.

The posttest was given to the same 242 respondents from the pretest. Of the 242 questionnaires distributed on the posttest, 206 (85%) were returned. Two were not usable, leaving a total sample size of 204.

Data Analysis

The following computer operations/computations were accomplished:

1. Frequencies (How many in the group ranked Rokeach value A number 1, number 2, etc.) for each of the Rokeach terminal values for

- a. pretest group
- b. posttest group

2. Frequencies (How many in the group valued Allport's et al. "theoretical" value highest, etc.) for each of the Study of Values categories for

- a. pretest group
- b. posttest group

3. Median for each of the Rokeach "terminal" values ranking (At what ranking, 1 through 18, did one-half of the responses fall below?) for

- a. pretest group
- b. posttest group

4. Median for each of the Allport et al. values categories (At what ranking, 1 through 6, did one-half of the responses fall below, etc.) for

- a. pretest group
- b. posttest group

5. Mean and standard deviations for each of the six Study of Values and each of the Value Survey dimensions for

- a. pretest group
- b. posttest group

6. Wilks' Lambda from multivariate analyses of variance was used to test the effects of the independent variables on the dependent variables. The independent variable refers to the treatment, and the dependent variable refers to survey score means. Wilks' Lambda were used to test the null hypotheses for

- a. pretest group verses posttest group,
- b. pretest group verses Air War College group for the Oliver study, and
- c. posttest group verses Air War College group.

Internal Validity

The interaction of selection and maturation was not considered to be a serious threat to internal validity because the group was studied for only eight weeks.

The interaction of selection and history was not considered to be a major threat to internal validity because all students were volunteers for attendance at Squadron Officer School, because over one-half of all junior officers attend, and because no conspicuously different events occurred from one section of students to another.

Although pretesting might create a sensitivity effect on posttest performance, Kerlinger (1973) states that threats to internal validity because of pretesting are not serious in environments where testing is common. Since testing is common at Squadron Officer School, it is therefore believed that pretesting was not a major threat to internal validity.

IV. RESULTS AND INTERPRETATIONS

The major purpose of this study was to determine whether or not attendance in initial professional military education tends to change the personal values of junior Air Force officers to be more congruent with the personal values of successful Air Force officers.

This chapter presents the statistical analysis of the results of this investigation and provides a discussion of their implications. Both multivariate (MANOVA) and univariate (One-way ANOVA) analyses of variance procedures were used from the MANOVA subroutine of the Statistical Package for the Social Sciences (SPSS^X).

Analysis Procedure

Hinkle, Wiersma and Jurs (1979) explain that there are a number of statistical tests that can be used to test null hypotheses. If the test was significant at whatever alpha level is used (.05 in this study) it can be concluded that there is a probable difference in the groups of means that cannot be attributed to random sampling fluctuation. Wilks' Lambda was the test

used in this analysis to determine significance. A significant multivariate analysis of variance (MANOVA) however, does not show exactly which means in the centroids are significantly different. If the MANOVA procedure yielded significant results, the next step in the procedure was to perform one-way analyses of variance (ANOVA's) producing F tests to locate the sources of significance.

Six separate multivariate analyses of variance using SPSS^X MANOVA were computed on the matrix of raw data. There were six analyses rather than one because of a REGION problem with the Auburn University mainframe computer. The maximum region available was 4,096K, only enough core for two independent variables per MANOVA for the repeated measures design. Furthermore, each MANOVA was done on the data from only one of the values instruments. Post hoc analyses of variance were computed using independent variables in parallel with their antecedent MANOVA's. That is, SPSS^X could have analyzed all independent variables in a factorial analysis of variance for each dependent variable, but several simpler analyses were done instead.

Independent variables for each of the MANOVA's consisted of group membership (e.g. junior officers before exposure to initial professional military education,

junior officers after exposure to initial professional military education, and successful officers).

As mentioned earlier, Oliver (1982) believes that ". . . Study of Values results are likely to stay constant . . . while the 'terminal' values from the Value Survey may change as a person ages" (p. 77). Based on this and on the limits of the computer core capacity, the two surveys were also analyzed separately.

The MANOVA's analyzed the following:

1. Junior officers before attendance at initial professional military education versus successful Air War College officers from the Study of Values.
2. Junior officers before attendance at initial professional military education versus successful Air War College officers from the Value Survey.
3. Junior officers before attendance at initial professional military education versus junior officers after attendance at initial professional military education from the Study of Values.
4. Junior officers before attendance at initial professional military education versus junior officers after attendance at initial professional military education from the Value Survey.

5. Junior officers after attendance at initial professional military education versus successful Air War College officers from the Study of Values.

6. Junior officers after attendance at initial professional military education versus successful Air War College officers from the Value Survey.

The null hypothesis of no differences between the survey score centroids of junior officers who have not yet been exposed to initial professional military education and successful officers was tested first using the scores from the Study of Values. The MANOVA yielded a lambda of 0.081 whose approximating F was 1.897 ($df=6.00$, $df=291.00$). This was not significant at the .05 level. Any differences between the centroids of the two groups could be explained as chance occurrences. Therefore, the null hypothesis of no differences between the pretested junior officers group and the successful officers group was not rejected based on the Study of Values instrument. No further investigation was conducted between these two groups for the Study of Values scores.

The null hypothesis of no differences between the survey scores of junior officers who have not been exposed to initial professional military education and successful officers was further tested, this time using the scores from the Value Survey. The MANOVA yielded a lambda of

0.000 with an approximating F of 6.115 ($df=18.00$, $df=279.00$). This was significant at the .05 level, meaning that the differences in the centroids between the junior officers group and the successful officers group was probably not due to chance occurrences. The null hypothesis that there is no difference between these two groups based on the scores from the Value Survey was rejected. Univariate F tests showed that there were significant differences between the junior officers group and the successful officers group on six of the seventeen relevant values. Results are shown in Tables 6 and 7. Statistical analysis shows significant differences in the personal values of junior Air Force officers who have not yet attended initial professional military education and successful Air Force officers in the following values categories: "a sense of accomplishment," "family security," "freedom," "national security," "pleasure," and "true friendship."

TABLE 6

Analysis of Variance of Value Survey Scores for Junior and Successful Air Force Officers by Value Categories				
<u>Source</u>	<u>D.F.</u>	<u>Sum of Squares</u>	<u>Mean Squares</u>	<u>F</u>
Variable: A sense of accomplishment				
Between groups	1	198.5590	198.5590	.001
Within groups	296	5288.9443	17.8681	
Total	297	5487.5034		
Variable: Family security				
Between groups	1	92.5399	92.5399	.022
Within groups	296	5136.8594	17.3543	
Total	297	5229.3993		
Variable: Freedom				
Between groups	1	153.0972	153.0972	.002
Within groups	296	4667.0236	15.7670	
Total	297	4820.1208		
Variable: National security				
Between groups	1	654.5100	654.5100	.000
Within groups	296	6619.2350	22.3623	
Total	297	7273.7450		
Variable: Pleasure				
Between groups	1	173.5081	173.5081	.003
Within groups	296	5578.9382	18.8478	
Total	297	5752.4463		
Variable: True friendship				
Between groups	1	103.6551	103.6551	.010
Within groups	296	4517.6637	15.2624	
Total	297	4621.3188		

TABLE 7

Group Means Broken Down by Junior Air Force Officers
Before Exposure to Initial Professional Military
Education and Successful Air Force Officers

<u>Value</u>	<u>Junior Officers Before (N=246)</u>	<u>Successful Officers (N=51)</u>
<u>Instrument: Study of Values</u>		
Theoretical	44.155	43.804
Economic	45.260	47.039
Aesthetic	36.007	35.588
Social	35.069	33.235
Political	43.968	43.863
Religious	35.394	36.333

Instrument: Value Survey

A comfortable life	9.927	10.231
An exciting life	10.398	11.308
A sense of accomp.	8.228*	6.077*
A world at peace	9.524	10.789
A world of beauty	14.963	15.135
Equality	12.289	12.962
Family security	5.911*	4.442*
Freedom	6.215*	4.327*
Inner harmony	9.244	8.577
Mature love	8.236	9.039
National security	10.232*	6.327*
Pleasure	12.163*	14.173*
Salvation	10.422	8.865
Self-respect	6.691	6.250
Social recognition	12.797	12.385
True friendship	8.927*	10.481*
Wisdom	8.837	9.212

* Denotes means that are significant at the .05 level.

Since all of the subjects who were given the pretest and the posttest were administered the same treatment, (attendance at initial professional military education), a repeated-measures design was considered to be appropriate. Pedhazur (1982) writes that

Probably the most important advantage of repeated-measures designs is that they afford the researcher control for individual differences among the subjects. Individual differences are probably the largest source of variation in most research studies. (p. 553)

In a repeated measures design, ". . . each subject serves as his own control" (p. 553), making it possible to separate variances as a result of individual differences from the error term. Pedhazur further states that this type of design allows for studies across time which are ". . . particularly useful in experiments dealing with learning . . . or in developmental studies" (p. 553).

As a result, a repeated-measures design was used in testing the null hypothesis that there is no significant difference between the values score centroids of junior officers before and after exposure to initial professional military education. First, a MANOVA was performed using the scores from the Study of Values. This test yielded a lambda of 0.541 whose approximating F was .839 ($df=6.00$, $df=198.00$). This was not significant at the .05 level. Any differences between the centroids of the two groups could be explained as chance occurrences. The null

hypothesis of no differences between the pretested group and the posttested group of junior officers was not rejected using the Study of Values instrument. No further investigation was conducted between these two groups using this instrument.

Another MANOVA was performed to test the hypothesis of no differences in the score centroids from the Value Survey, again between the junior officers group before and after exposure to initial professional military education. This test yielded a lambda of 0.000 with an approximating F of 5.277 ($df=18.00$, $df=186.00$). This was significant at the .05 level resulting in rejection of the null hypothesis. Univariate F tests showed that there were significant differences between the pretested and post-tested junior officers group on thirteen of eighteen values. Results are reflected in Tables 8 and 9. The analysis of the data shows significant differences in the personal values of junior Air Force officers before and after exposure to initial professional military education in the following values categories: "a comfortable life," "an exciting life," "a sense of accomplishment," "a world of beauty," "family security," "freedom," "health," "mature love," "national security," "pleasure," "self-respect," "social recognition," and "true friendship."

TABLE 8

Analysis of Variance of Pretested and Posttested Value Survey Scores for Junior Air Force Officers				
<u>Source</u>	<u>D.F.</u>	<u>Sum of Squares</u>	<u>Mean Squares</u>	<u>F</u>
Variable: A comfortable life				
Between groups	1	229.5000	229.5000	.000
Within groups	448	2348.5000	11.5690	
Total	449	2578.0000		
Variable: An exciting life				
Between groups	1	91.2966	91.2966	.006
Within groups	448	2436.2034	12.0010	
Total	449	2527.5000		
Variable: A sense of accomplishment				
Between groups	1	156.8848	156.8848	.000
Within groups	448	2284.6152	11.2543	
Total	449	2441.5000		
Variable: A world of beauty				
Between groups	1	55.8848	55.8848	.002
Within groups	448	1197.6152	5.8996	
Total	449	1253.5000		
Variable: Family security				
Between groups	1	113.2966	113.2966	.000
Within groups	448	1708.2034	8.4148	
Total	449	1821.5000		
Variable: Freedom				
Between groups	1	333.7279	333.7279	.000
Within groups	448	2451.7721	12.0777	
Total	449	2785.5000		

TABLE 8 (cont'd)

Analysis of Variance of Pretested and Posttested Value Survey Scores for Junior Air Force Officers				
<u>Source</u>	<u>D.F.</u>	<u>Sum of Squares</u>	<u>Mean Squares</u>	<u>F</u>
Variable: Health				
Between groups	1	110.1569	110.1569	.002
Within groups	448	2296.8431	11.3145	
Total	449	2407.0000		
Variable: Mature love				
Between groups	1	63.5319	63.5319	.011
Within groups	448	1980.9681	9.7585	
Total	449	2044.5000		
Variable: National security				
Between groups	1	652.5882	652.5882	.000
Within groups	448	3025.4118	14.9035	
Total	449	3678.0000		
Variable: Pleasure				
Between groups	1	265.2966	265.2966	.000
Within groups	448	2340.2034	23.0130	
Total	449	2605.5000		
Variable: Self-respect				
Between groups	1	99.0221	99.0221	.002
Within groups	448	2035.4779	10.0270	
Total	449	2134.5000		
Variable: Social recognition				
Between groups	1	50.8235	50.8235	.020
Within groups	448	1864.1765	9.1831	
Total	449	1915.0000		

TABLE 8 (cont'd)

Analysis of Variance of Pretested and Posttested Value Survey Scores for Junior Air Force Officers				
<u>Source</u>	<u>D.F.</u>	<u>Sum of Squares</u>	<u>Mean Squares</u>	<u>F</u>
Variable: True friendship				
Between groups	1	63.5319	63.5319	.010
Within groups	448	1894.9681	9.3348	
Total	449	1958.5000		

TABLE 9

Group Means Broken Down by Junior Officers Before
and Junior Officers After Exposure to Initial
Professional Military Education

<u>Value</u>	<u>Junior Officers Before (N=246)</u>	<u>Junior Officers After (N=204)</u>
<u>Instrument: Study of Values</u>		
Theoretical	44.155	44.441
Economic	45.260	45.667
Aesthetic	36.077	35.730
Social	35.069	34.093
Political	43.968	44.230
Religious	35.394	35.858
<u>Instrument: Value Survey</u>		
A comfortable life	9.927*	11.480*
An exciting life	10.398*	11.392*
A sense of accomp.	8.228*	6.927*
A world at peace	9.524	9.476
A world of beauty	14.963*	15.540*
Equality	12.289	12.549
Family security	5.911*	4.735*
Freedom	6.215*	4.279*
Health	6.272*	7.206*
Inner Harmony	9.244	9.216
Mature love	8.236*	9.049*
National security	10.232*	7.775*
Pleasure	12.163*	13.878*
Salvation	10.423	9.927
Self-respect	6.691*	5.647*
Social recognition	12.797*	13.382*
True friendship	8.927*	9.760*
Wisdom	8.837	8.779

* Denotes means that are significant at the .05 level.

The null hypothesis that there are no significant differences between the survey score centroids of successful officers and junior officers after the junior officers have been exposed to initial professional military education was tested next, first using the scores from the Study of Values. The MANOVA yielded a lambda of 0.251 with an approximating F of 1.316 ($df=6.00$, $df=249.00$). This again means any differences between the two groups were probably due to chance occurrences. This was not significant at the .05 level, and the null hypothesis was not rejected based on the scores from the Study of Values.

Finally, the same null hypothesis was tested using scores from the Value Survey. This MANOVA resulted in a lambda of 0.000 and an approximating F of 4.496 ($df=18.00$, $df=237$), and the null hypothesis of no significant differences between these two groups based on the scores from the Value Survey was rejected. Univariate F tests showed that there were significant differences between these two groups on only one of the eighteen values, that of "health/happiness". As stated earlier, "health" replaced "happiness" on the most current form of the Rokeach instrument, and as a result, this variable was not used to make any comparisons or draw any conclusions.

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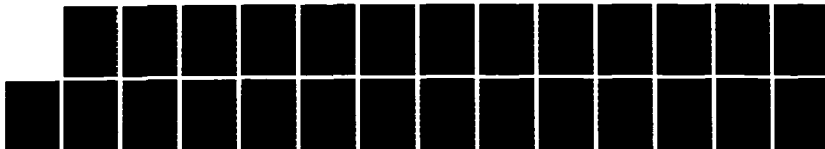
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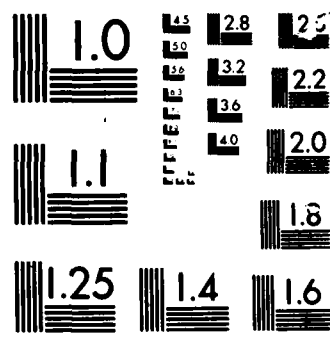
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Analysis Summary

This chapter has presented the results of analyses of the data obtained from two instruments, the Study of Values and the Value Survey, that were administered to students prior to (pretest) and again after (posttest) exposure to initial professional military education. The pretest and posttest scores were compared to each other, as well as to scores from the same instruments collected from a group of successful Air Force officers who attended the Air War College in 1982. There were no significant differences found when analyzing the results of the Study of Values questionnaire. However, significant differences did occur when analyzing the data from the Value Survey instrument. This is consistent with Oliver's (1982) observation that ". . . the Study of Values results are likely to stay constant . . . while the 'terminal' values of the Value Survey may change . . ." (p. 77).

The a priori conclusions evaluated in this study were:

1. Successful Air Force officers and junior Air Force officers who have not been exposed to initial professional military education do not hold the same personal values.

2. Junior Air Force officers will change their personal values after they have been exposed to initial professional military education.

3. This change tends to make the personal values of the junior Air Force officers more congruent with the personal values of the successful Air Force officers.

The results of the data analysis from the Value Survey tend to support these hypotheses. There were three null hypotheses tested. The first was that there is no significant difference between the values survey scores of successful Air Force officers and junior Air Force officers who have not been exposed to initial professional military education. Analysis of the data from the Value Survey yielded significant results leading to rejection of the first null hypothesis. The second null hypothesis was that there is no significant difference between the pretest (before exposure to initial professional military education) and the posttest (after exposure to initial professional military education) survey scores of junior Air Force officers. Analysis of this hypothesis using Value Survey data also yielded significance resulting in rejection. The third null hypothesis was that there is no significant difference between the survey scores of successful Air Force officers and junior Air Force officers after the junior

officers have been exposed to initial professional military education (posttest). Even though significant results were obtained, only the "health/happiness" value was significantly different. As stated earlier, the Value Survey Form G replaced the term "happiness" from Form D with "health". Since the data from the Air War College group was collected using Form D, and since the data from the Squadron Officer School group was collected using Form G, the "health/happiness" value was not used to make any comparisons or draw any conclusions between the pretest and the Air War College group and the posttest and the Air War College group. This led to the conclusion that the junior Air Force officers' posttest values and successful Air Force officers' values were similar overall.

What does this mean? It is concluded that junior Air Force officers who have not attended initial professional military education (Squadron Officer School) do not hold the same personal values as successful Air Force officers. It also means that attendance at Squadron Officer School does in fact change the personal values of these junior officers. Finally, it means this change is in the direction of making the values of junior officers more congruent with the values of successful officers.

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary and Findings

A study by Oliver in 1982 served as the basis for this study. It established the values for the successful Air Force officers group and compared the values of students attending the Air War College (successful Air Force officers) with the values of United States Air Force Academy freshmen (those who aspire to be successful in the year 2005). It was concluded that there were significant differences between these two groups and suggested that "Ideally, the goal . . . would be to identify the values profile which most likely assures an incoming academy student that he/she will be successful in the Air Force" (p. 80). Much of the related literature supports the premise that personal values are established and solidified in individuals in their first twenty years, and that unless a deliberate attempt is made or a significant event occurs, these values generally remain unchanged throughout a person's life. If that premise is in fact true, then those Air Force Academy freshmen identified in the Oliver study may not possess or acquire the values needed for

success without some intervention. The results of the Oliver study coupled with a significant amount of recent high level Air Force concern over the changing values of civilian society and the effects these changes have on the quality of the United States Air Force officer corps led to this research.

The primary purpose of this study was to determine if attendance in initial professional military education (Squadron Officer School) changes the personal values of junior Air Force officers to make them more congruent with the personal values of successful Air Force officers. There were three basic research questions investigated. They were:

1. Do junior Air Force officers who have not yet been exposed to initial professional military education possess the same personal values of successful Air Force officers?
2. If they do not, does exposure to initial professional military education change the personal values of junior Air Force officers?
3. If change does occur, does the change tend to make the personal values of junior Air Force officers more congruent with those of successful Air Force officers?

The a priori expectations were that there would, in fact, be differences between the personal values of junior

Air Force officers and successful Air Force officers, and that attendance at Squadron Officer School would tend to change the personal values of junior Air Force officers to become more congruent with the personal values of successful Air Force officers.

A search of the literature on values as they relate to the military revealed little discussion regarding which values are necessary for success or of values change, except to recognize their importance in a broad sense. No studies were found which attempted to modify the values of military personnel. However, review of the available literature on the changing of values in the civilian sector showed that different techniques had been used in numerous studies with a fairly wide range of targeted values and behaviors which produced significant results. The discussion in the literature led to the belief that values can be measured, values can be changed, and this change can be lasting.

The intervention in this research was exposure of junior officers to initial professional military education (Squadron Officer School) for eight weeks between October and December 1985 at Maxwell Air Force Base, Alabama. Values data from this group was then compared with

data collected from students who attended Air War College in 1982 (successful officers).

Two instruments were used to gather the data; the 1970 Allport, Vernon and Lindzey Study of Values, and the 1982 Rokeach Value Survey. Data were first obtained on the values of randomly selected Squadron Officer School students on their first day of class (pretest). Data were collected again from the same group eight weeks later, just prior to completion of the course (posttest). This accomplished three things. First, it determined the personal values of junior Air Force officers before exposure to Squadron Officer School. Second, it determined the personal values of junior Air Force officers after exposure to Squadron Officer School. Third, it provided a data base for pretest and posttest comparison as well as for comparison to data collected in the 1982 Oliver research.

Once the data were collected, multivariate analyses of variance were used to investigate the effects of the independent variables on the dependent variables. When all the factors addressed in the preceding chapter were drawn together, the following conclusions were considered to be reasonable and defensible.

1. Although there were no significant differences found in the data from the Study of Values between the

pretest group and the successful officers group, significant differences were found using data from the Value Survey.

2. No significant differences were found between the pretest group and the posttest group using the Study of Values. However, significant differences were found using the scores from the Value Survey.

3. There were no significant differences found using the Study of Values between the posttest group and the successful officers group. Once again, significant differences were found using the Value Survey on the "health/happiness" value. As explained earlier, this value was not used to draw any conclusions since comparison was inappropriate.

The results of the data analyses support the a priori expectations. The research conclusions were:

1. Junior Air Force officers who have not yet attended Squadron Officer School do not hold the same personal values as successful Air Force officers.

2. Attendance at Squadron Officer School does in fact change the personal values of junior Air Force officers.

3. This change results in the personal values of junior Air Force officers becoming more congruent with the personal values of successful Air Force officers.

Recommendations

Many of the experts argue that success is a result of behavior tied to personal values. Oliver (1982) states that ". . . the values of 'successful Air Force officers' should be emulated/imitated/achieved by those . . . who want to be successful" (p. 79). Numerous questions still remain unanswered. Similar research opportunities are almost limitless concerning precommissioning education as well as professional military education. It would also be valuable to know the values of certain subgroups such as pilots, navigators, missile officers, procurement officers, budget officers, maintenance officers, security police officers, etc. There are numerous other research questions and pragmatic concerns that also need to be addressed by the Air Force. Some of them are described as follows:

1. Is the data from the 1982 Oliver study representative of successful Air Force officers? Is the data stale? Does this really represent success or the values desired by the institution? Perhaps a broader data base of successful Air Force officers needs to be obtained and standards set. Also, perhaps there are other indicators of success in addition to selection for and attendance at senior service school.

2. Do values really affect success? If so, do they affect the success of the institution as well as the individual? Are there officers who do not possess the values presented here that are successful?

3. Only 54 percent of the eligible junior officers attend Squadron Officer School. Since the findings in this investigation indicate that attendance does change values in the direction for success, should attendance be mandatory for 100 percent of the junior officer corps?

4. Squadron Officer School can also be taken by correspondence. Perhaps a study to determine if the correspondence program has similar results would be valid and useful and perhaps instill the necessary values in the remaining 46 percent that are unable to attend in residence.

5. Was the Squadron Officer School curriculum the real values change factor, or were the values affected by something incidental to attendance? Was there something specific within the curriculum or was it the overall experience that resulted in the change?

6. Since a change did occur, should this change be attempted earlier or later in the junior officer's career? Should these officers attend Squadron Officer School earlier or later in their respective careers? Should this values change be attempted before commissioning.

7. With respect to the previous question, is age a factor in the change? Are values easier to change at a younger/older age? Is there a socialization process that affects personal values, and how important is it?

8. What affect does attendance at intermediate level (Air Command and Staff College) professional military education and senior service school (Air War College) have on the personal values of the Air Force officer corps?

9. Are the personal values of enlisted personnel important for success as well? Since they too have various levels of professional military education, does this experience affect their personal values? Do the same questions asked in this investigation apply to success in the enlisted corps?

10. How similar or different are the values of Air Force personnel from those of the general American society?

As a result of this study, it is suggested that additional carefully designed research be performed in an effort to answer some of the previous questions. This study concludes that there are indeed differences in the values of junior Air Force officers before exposure to initial professional military education. Also, there is significant evidence that exposure to initial professional military education changes the personal

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APPENDIX A

A copy of the Study of Values
questionnaire can be purchased from:

The Riverside Publishing Company
8420 Bryn Mawr Avenue
Chicago, Illinois 60631

APPENDIX B

A copy of the Value Survey
questionnaire can be purchased from:

Halgren Tests
875 Persimmon Ave.
Sunnyvale, California 94087

(408)738-1342

APPENDIX C



DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR COMMAND AND STAFF COLLEGE
MAXWELL AIR FORCE BASE, AL 36112-5542

REPLY TO
ATTN OF

ACSC/EDOWC-25

22 October 1985

SUBJECT

Personal Values Questionnaire

to Selected SOS Students

1. You have been selected to participate in a study of personal values. The study serves two purposes. First, it will help assess your personal values for use during the values and ethical behavior portion of the curriculum. Second, the data will be used as a basis for a research study being performed at Air Command and Staff College.
2. During the sixth or seventh week you will be asked to take the questionnaire again as a post-test to determine if your attendance at SOS changed any of your personal values.
3. The questionnaire takes about 30 to 45 minutes to accomplish. Please answer the questions in the attachment as honestly as possible and return it to your section commander on 23 October 1985. Your participation is greatly needed and will be most appreciated.

A handwritten signature in cursive script, reading "Jim Antenen".

JAMES L. ANTENEN, Major, USAF
ACSC/EDOWC-25

1 Atch.
Personal Values
Questionnaire

APPENDIX C (Cont'd)

AU SURVEY
CONTROL NO.: 85-48

PERSONAL VALUES QUESTIONNAIRE

EXPIRES: 10 Oct 86

PRIVACY ACT STATEMENT

In accordance with AFR 12-35, para 8, the following information is provided as required by the Privacy Act of 1974.

a. Authority:

(1) DOD Instruction 1100.13, Surveys of Department of Defense Personnel, and

(2) AFR 30-23, Air Force Personnel Survey Program.

b. Principal Purpose: To sample Air Force opinion and attitudes on a problem of interest to the Air Force.

c. Routine Uses: To provide data for an ACSC student research project and doctoral dissertation.

d. Participation in this survey is entirely voluntary. Disclosure of SSAN is also voluntary, and it will be used only for identification for post-testing purposes.

e. No adverse action may be taken against any individual who will not participate in any part or all of this survey.

PERSONAL INFORMATION

Please provide the following information. Your name will be used only to identify and locate you for post-testing.

NAME: _____ SOS SECTION NUMBER: _____

AGE: _____ SEX: _____ RELIGION: _____

SSAN: _____

AIR FORCE SPECIALTY CODE (PRIMARY AFSC): _____

RACE OR ETHNIC BACKGROUND _____

TIME IN SERVICE (To nearest year) _____

WERE EITHER OF YOUR PARENTS CAREER MILITARY?

FATHER: YES _____ MOTHER: YES _____

NO _____ NO _____

APPENDIX D



DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR COMMAND AND STAFF COLLEGE
MAXWELL AIR FORCE BASE, AL 36112-5542

REPLY TO
ATTN: DR

ACSC/EDOWC-26

9 December 1985

SUBJECT

Personal Values Questionnaire (SUSPENSE: 13 December '85)

TO

Selected SOS Students

1. The purpose of this letter is two-fold. First, it is to thank you for your participation in the personal values questionnaire during your first week of SOS, and second, to request your help in the posttest process.

2. Your participation in the initial survey is greatly appreciated. The information from the data proved to be extremely valuable and provided some very interesting results. You will be given feedback on some of those results during the upcoming seminar on values.

3. Unfortunately, you're not finished yet. I realize that the survey is an imposition and takes up some of your very valuable time, but the data is needed in an effort to form some conclusions about your experiences at SOS. Please fill out the enclosed surveys and return them in the envelope to SOS/EDV not later than 13 December 1985.

IMPORTANT NOTE: When completing the score sheet for the Study of Values, make certain that you transcribe the values from the previous pages to the properly marked spaces. The order in which the letters are inserted differs for the various pages.

4. I'm sorry for the inconvenience, but your participation is greatly needed and will be very much appreciated. Thanks again, and I hope you have a happy holiday!

A handwritten signature in cursive script, likely of James L. Antenen, is positioned above the typed name.

JAMES L. ANTENEN, Major, USAF
ACSC/EDOWC-26

APPENDIX D (Cont'd)

PERSONAL VALUES QUESTIONNAIRE

AU SURVEY

CONTROL NO.: 85-48

EXPIRES: 10 Oct '86

PRIVACY ACT STATEMENT

In accordance with AFR 12-35, para 8, the following information is provided as required by the Privacy Act of 1974.

a. Authority:

(1) DOD Instruction 1100.13, Surveys of Department of Defense Personnel, and

(2) AFR 30-23, Air Force Personnel Survey Program.

b. Principal Purpose: To sample Air Force opinion and attitudes on a problem of interest to the Air Force.

c. Routine Uses: To provide data for an ACSC student research project and doctoral dissertation.

d. Participation in this survey is entirely voluntary.

e. No adverse action may be taken against any individual who will not participate in any part or all of this survey.